Please amend the first paragraph on page 1 of the specification
as filed (see lines 7-9 on page 1) as indicated below.

This is a divisional of co-pending U.S. Serial No. 09/077,795, filed on June 5, 1998, which is the U.S. National Stage Application of PCT International Application No. PCT/GB96/03055, filed on 11 December 1996. The present invention relates to [a method of accessing service resource items that are intended to be used in setting up bearer channels through a switched telecommunications system]methods and apparatus for accessing communication data relevant to a target entity identified by a number string.

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Please amend pages 16-18 of the specification as filed as
indicated below.

Internet calling party on the progress of call set to the destination telephone over the PSTN local to that telephone; this feedback need only be in terms of whether or not the call has succeeded.

5   From the foregoing it can be seen that the current cooperative use of the Internet and telephone system is at a very simple level.

It is an object of the present invention to provide a method of accessing a service resource item over a communications network that facilitates the integration of the

10   PSTN and the WWW.

Summary of the Invention

According to the present invention, there is provided a method of accessing service resource items for use in respect of setting up bearer channels through a switched

15   telecommunications system, the method including the steps of:

(a) -- provisioning at least one server connected to a computer network with a plurality of service resource items that are thereafter locatable on said computer network by corresponding known URIs, said computer network being logically distinct from the telecommunications system, and said service resource items

20   relating to setup control for bearer channels through said telecommunications system with each said service resource item being associated with a respective predetermined code, said predetermined codes being distinct from said URIs and identifying end-point entities for said bearer channels;

(b) -- providing a mapping between each said predetermined code and the said known

25   URI of the service resource item associated with that predetermined code; and

(c) -- utilising a said predetermined code to access a corresponding said service resource item by using said mapping to determine the URI corresponding to that resource item and then using this URI to access the service resource item over said computer network.

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In one embodiment, at least some of the URIs are derivable from their corresponding said predetermined codes by manipulation according to a function specified by said

mapping. In another embodiment, at least some of the URIs are derivable from their corresponding said predetermined codes by look up in an association table associating said predetermined codes and URIs according to said mapping. This association table can advantageously be held on at least one database server connected to the computer

5   network, step (c) involving accessing the database server over the computer network to determine the URI corresponding to the said predetermined code. Preferably, the said at least one database server is provided by a DNS-type distributed database system in which the URIs are held in records associated with respective names, herein referred to as domain names, by which the records can be retrieved. In this case, step (c)

10 involves translating said predetermined code into a corresponding domain name and using this domain name to retrieve the URI of the required service resource item from the DNS-type distributed database system.

More than one service resource item can be located at the same URI; in this case, the

15 predetermined codes of these service resource items will include respective relative-resource-identifier values that can be used at the server holding the service resource items to identify the required resource item amongst the service resource items at the same URI.

20 The telecommunications system may be a telephone system with each said predetermined code being either the telephone number of the calling party or the telephone number of the called party (these numbers may either be the numbers of specific telephones, or personal numbers). In one preferred embodiment where at least some of said predetermined codes are called-party telephone numbers, the

25 corresponding service resource items are the current telephone numbers of the called parties.

Generally as regards the nature of the service resources, these may be of the following type:

30   —   service logic intended to be executed by the corresponding server upon being accessed with the result of this execution being returned to the accessing entity;

-- downloadable service data which upon being accessed is intended to be downloaded to the accessing entity;

-- downloadable service logic which upon being accessed is intended to be downloaded to the accessing entity for execution thereby.

5   Preferably, where URIs are referred to in the foregoing, these URIs are URLs and/or URNs. Furthermore, the servers referred to are preferably HTTP servers.

It is to be understood that reference in the foregoing to the computer network being
10   logically distinct from the telecommunications system is not to be taken to imply that there is physical separation of the two - indeed, there will frequently be joint use of the same physical infrastructure. Furthermore, not only may bearer channels set up in the telecommunications system share the same transmission medium as the computer network, but such a bearer channel may act as a pipe for traffic across the computer
15   network. The intention of requiring the computer network to be logically distinct from the telecommunications system is to exclude computer networks that are dedicated to the management or monitoring of the bearer network and effectively form part of the telecommunications system itself.

20   Preferably, the computer network is generally accessible to users of the telecommunications system as this provides a number of benefits to users that will become apparent hereinafter. The phrase "generally accessible" should not be construed as meaning that all users of the telecommunications system have such access to the computer network or can get such access but, rather, it should be understood as
25   meaning that a significant proportion of these users have or can obtain access to the computer network.

By way of example, in one preferred embodiment of the invention, the computer network generally accessible to users of the telecommunications system but logically
30   distinct from it, is the Internet and the telecommunications system is a public telephone system. In another embodiment, the telecommunication system is a private system including a PABX, and the computer network is a LAN.

According to the present invention, there is provided a method of accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an URI for locating communications data associated with the domain name, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name;

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the URI held in the corresponding said record; and

(d) - using the URI retrieved in step (c) to access said communication data.

According to another aspect of the present invention, there is provided a method of accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an at least part-formed URL, including access scheme and host name, of an item of communications data, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the at least part-formed URL held in the corresponding said record;

(d) - using the at least part-formed URL retrieved in step (c) to access said communication data.

According to a further aspect of the present invention, there is provided a method of discovering communications endpoint address data for contacting a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an URL of a resource that has access to multiple items of communications endpoint address data, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name, the number strings being in telephone-number form.;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the URL held in the corresponding said record;

(d) - using the URL to access the corresponding said resource and supply it with an indicator of the desired item of communications endpoint address data, this data then being returned by the resource.

According to a still further aspect of the present invention, there is provided a method of accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in a DNS-type database system, records each associated with a corresponding domain name and holding an URI for locating communications data associated with the domain name, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS-type database system to retrieve the URI held in the corresponding said record;

(d) - using the URI retrieved in step (c) to access said communication data.

The present invention also encompasses clients-focused methods corresponding to the above overall methods of the invention, and apparatus for implementing aspects of the methods of the invention.